



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2023-0018; Project Identifier AD-2022-00883-R]

RIN 2120-AA64

Airworthiness Directives; Sikorsky Aircraft Corporation Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to supersede Airworthiness Directive (AD) 2022-02-01, which applies to Sikorsky Aircraft Corporation Model S-92A helicopters with certain part-numbered main rotor stationary swashplate assemblies (swashplate assemblies) that have accumulated 1,600 or more total hours time-in-service (TIS) installed. AD 2022-02-01 requires visually inspecting the swashplate assembly at specified intervals and depending on the results, removing the swashplate assembly from service. Since the FAA issued AD 2022-02-01, the FAA determined it was necessary to expand the applicability and require more detailed inspections to address the unsafe condition. This proposed AD would retain the actions of AD 2022-02-01, expand the applicability, add a detailed recurring visual inspection, and require either eddy current inspections (ECI) or fluorescent penetrant inspections (FPI). The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to [regulations.gov](https://www.regulations.gov). Follow the instructions for submitting comments.
- Fax: (202) 493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

AD Docket: You may examine the AD docket at [regulations.gov](https://www.regulations.gov) by searching for and locating Docket No. FAA-2023-0018; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, any comments received, and other information. The street address for Docket Operations is listed above.

Material Incorporated by Reference:

- For Sikorsky service information identified in this NPRM, contact your local Sikorsky Field Representative or Sikorsky's Service Engineering Group at Sikorsky Aircraft Corporation, Mailstop K100, 124 Quarry Road, Trumbull, CT 06611; telephone 1-800-946-4337 (1-800-Winged-S); email wcs_cust_service_eng.gr-sik@lmco.com. Operators may also log on to the Sikorsky 360 website at sikorsky360.com.

- You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

FOR FURTHER INFORMATION CONTACT: Jared Hyman, Aerospace Engineer, Boston ACO Branch, Compliance & Airworthiness Division, FAA, 1200 District Avenue, Burlington, Massachusetts 01803; telephone (781) 238-7799; email: 9-AVS-AIR-BACO-COS@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include "Docket No. FAA-2023-0018; Project Identifier AD-2022-00883-R" at the beginning of your comments. The most helpful comments reference a specific portion of the proposal,

explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend the proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to regulations.gov, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Jared Hyman, Aerospace Engineer, Boston ACO Branch, Compliance & Airworthiness Division, FAA, 1200 District Avenue, Burlington, Massachusetts 01803; telephone (781) 238-7799; email: 9-AVS-AIR-BACO-COS@faa.gov. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The FAA issued AD 2022-02-01, Amendment 39-21898 (87 FR 2316, January 14, 2022) (AD 2022-02-01), for Sikorsky Aircraft Corporation Model S-92A helicopters with a swashplate assembly part number (P/N) 92104-15011-042 or P/N 92104-15011-043 that has accumulated 1,600 or more total hours TIS, installed. AD 2022-02-01 was prompted by a notification of an in-service crack in a swashplate assembly inner ring. The crack, discovered during a routine inspection, extended between

the uniball bore and near the right-hand trunnion to servo attach bolt hole. This condition, if not detected and corrected, could result in fretting wear on the shoulder that supports the clamp-up of the uniball outer race, failure of the swashplate assembly, and subsequent loss of control of the helicopter. AD 2022-02-01 requires, within 50 hours TIS and thereafter at intervals not to exceed 50 hours TIS, visually inspecting the upper and lower surfaces of the swashplate assembly for a crack, nick, dent, and scratch. If there is a crack, nick, dent, or scratch that exceeds allowable limits, AD 2022-02-01 requires removing the swashplate assembly from service before further flight. The agency issued AD 2022-02-01 to address the unsafe condition on these products.

Actions Since AD 2022-02-01 Was Issued

Since the FAA issued AD 2022-02-01, Sikorsky Aircraft Corporation issued Sikorsky S-92 Helicopter Alert Service Bulletin ASB 92-62-010, Basic Issue, dated January 26, 2022 (ASB 92-62-010), for Sikorsky Aircraft Corporation Model S-92A helicopters with serial numbers 920006 and subsequent equipped with swashplate assembly P/N 92104-15011-042 or P/N 92104-15011-043, delivered as of January 26, 2022 (the issuance date of ASB 92-62-010). ASB 92-62-010 specifies a visual inspection of the swashplate assembly for cracks followed by recurring 50-hour inspections. Depending on the accrued flight time, maximum gross weight, or suspicion of cracks, ASB 92-62-010 specifies performing either an FPI or ECI. Prior to the FAA issuing AD 2022-02-01, Sikorsky Aircraft provided a comment to the NPRM (86 FR 47041, August 23, 2021) for that AD stating that the 50-hour recurring inspections proposed in the NPRM were insufficient based on recent fatigue evaluations, which had introduced a new failure mode. Sikorsky Aircraft further stated that this new failure mode requires improved detection capability, which would be introduced in a forthcoming revision to Sikorsky S-92 Helicopter Alert Service Bulletin ASB 92-62-009, Basic Issue, dated February 6, 2019 (ASB 92-62-009). Sikorsky Aircraft explained that the planned revision would specify special inspections at 50-hour, 375-hour, and 1,500-hour intervals to visually detect a potential fatigue crack at specific regions of the swashplate and would include criteria for when to accomplish an FPI or ECI. Since providing that comment, Sikorsky Aircraft has updated its guidance and retained ASB 92-62-009 and issued ASB

92-62-010. The special 375-hour and 1,500-hour inspections with added specific focus on the swashplate region were incorporated into the maintenance manual and not into a service bulletin. Based on continued analysis, the FAA has determined that the unsafe condition could exist on swashplate assemblies regardless of accumulated usage and accordingly has expanded the applicability of this proposed AD. In addition, the FAA has determined it is necessary to require more detailed inspections to address the new failure mode.

FAA's Determination

The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

Related Service Information under 1 CFR Part 51

The FAA reviewed ASB 92-62-010, which specifies a visual inspection of the swashplate assembly to determine if there are any cracks and initiates a 50-hour recurring visual inspection. If cracks are found, ASB 92-62-010 specifies replacing the swashplate assembly. Dependent on accrued flight time or suspicion of cracks, an FPI or ECI is performed. ASB 92-62-010 also specifies returning the swashplate assembly, uniball bearing, trunnions, and all attachment hardware to Sikorsky for investigation if cracks are found.

This proposed AD would also require ASB 92-62-009, which the Director of the Federal Register approved for incorporation by reference as of February 18, 2022 (87 FR 2316, January 14, 2022).

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

Proposed AD Requirements in this NPRM

This proposed AD would continue to require, for swashplate assemblies that have accumulated 1,600 or more total hours TIS, certain recurring visual inspections. This proposed AD would also expand the visual inspections required by AD 2022-02-01 and revise the applicability statement of AD 2022-02-01. This proposed AD would require

accomplishing the actions specified in the service information already described, except as discussed under “Differences Between this AD and the Service Information.”

Differences Between this Proposed AD and the Service Information

The applicability statement in this proposed AD does not identify airframe serial numbers, whereas the effectivity of ASB 92-62-010 does. This proposed AD would affect all swashplate assemblies P/N 92104-15011-042 and P/N 92104-15011-043 regardless of delivery date, whereas the effectivity of ASB 92-62-010 is for those part-numbered swashplate assemblies delivered as of January 26, 2022 (the issuance date of ASB 92-62-010). ASB 92-62-009 specifies a one-time visual inspection of the swashplate assembly; this proposed AD would require recurring visual inspections of the swashplate assembly to determine if any crack, nick, dent, or scratch develops over time. This proposed AD does not require returning parts to or contacting Sikorsky, while ASB 92-62-009 and ASB 92-62-010 specify performing those actions.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 89 helicopters of U.S. registry. The FAA estimates the following costs to comply with this proposed AD. Labor costs are estimated at \$85 per work-hour.

Visually inspecting a swashplate assembly would take about 1.0 work-hour, for an estimated cost of \$85 per helicopter and \$7,565 for the U.S. fleet, per inspection cycle.

Performing an ECI or FPI would take about 8.0 work-hours, for an estimated cost of \$680 per helicopter and \$60,520 for the U.S. fleet, per inspection cycle.

Replacing the swashplate assembly, if required, would take about 16 work-hours and parts cost about \$389,720, for an estimated cost of \$391,080 per helicopter.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency’s authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, General requirements. Under that section, Congress

charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

- 2. The FAA amends § 39.13 by:

- a. Removing Airworthiness Directive 2022-02-01, Amendment 39-21898 (87 FR 2316, January 14, 2022); and
- b. Adding the following new airworthiness directive:

Sikorsky Aircraft Corporation: Docket No. FAA-2023-0018; Project Identifier AD-2022-00883-R.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) action by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2022-02-01, Amendment 39-21898 (87 FR 2316, January 14, 2022) (AD 2022-02-01).

(c) Applicability

This AD applies to Sikorsky Aircraft Corporation Model S-92A helicopters, certificated in any category, with a main rotor stationary swashplate assembly (swashplate assembly) part number (P/N) 92104-15011-042 or P/N 92104-15011-043 installed.

(d) Subject

Joint Aircraft System Component (JASC) Code: 6230, Main Rotor Mast/Swashplate.

(e) Unsafe Condition

This AD was prompted by the discovery of a crack on the swashplate assembly inner ring. The FAA is issuing this AD to detect cracks that could result in fretting wear on the shoulder that supports the clamp-up of the uniball outer race. The unsafe condition, if not addressed, could result in failure of the swashplate assembly and subsequent loss of control of the helicopter.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Definition

For the purposes of this AD, a “suspected crack” is a nick, scratch, or crack in the paint or primer that includes observable metallic base material.

(h) Required Actions

(1) For helicopters with swashplate assemblies identified in paragraph (c) of this AD that have accumulated 1,600 or more total hours time-in-service on the swashplate assembly, within 50 hours time-in-service (TIS) from February 18, 2022 (the effective date of AD 2022-02-01), and thereafter at intervals not to exceed 50 hours TIS, visually inspect the swashplate assembly for a crack, nick, dent, and scratch, by following the Accomplishment Instructions, Section 3, paragraph B. (except paragraphs B.(2)(a) through (c)) of Sikorsky S-92 Helicopter Alert Service Bulletin ASB 92-62-009, Basic Issue, dated February 6, 2019. If there is a crack, nick, dent, or scratch that exceeds the allowable limits, before further flight, remove the swashplate assembly from service.

(2) For helicopters with swashplate assemblies identified in paragraph (c) of this AD, within 50 hours TIS after the effective date of this AD, and thereafter at intervals not to exceed 50 hours TIS, visually inspect the swashplate assembly for surface discontinuities and suspected cracks by following the Accomplishment Instructions, Section 3., paragraphs B.(1) through (3), of Sikorsky S-92 Helicopter Alert Service Bulletin ASB 92-62-010, Basic Issue, dated January 26, 2022 (ASB 92-62-010). If there is any surface discontinuity or suspected crack, before further flight, remove the trunnion and accomplish an eddy current inspection (ECI) or fluorescent penetrant inspection (FPI) for a crack by accomplishing the actions in paragraph (h)(2)(i) or (ii) of this AD, as applicable.

(i) Accomplish an ECI by following the Accomplishment Instructions, Section 3, paragraphs C.(1) through (6), but not paragraph C.(6)(c)(1)., of ASB 92-62-010.

(ii) Accomplish an FPI by following the Accomplishment Instructions, Section 3, paragraphs D.(1) through (5), except paragraph D.(4), of ASB 92-62-010.

(3) For helicopters with a swashplate assembly identified in paragraph (c) of this AD certified for operation at a maximum gross weight of 26,500 lbs. that have accumulated 8,600 or more total hours TIS on the swashplate assembly, or certified for operation at a maximum gross weight of 27,700 lbs. that have accumulated 3,300 or more total hours TIS on the swashplate assembly, within 50 hours TIS after the effective date of this AD, and thereafter at intervals not to exceed 50 hours TIS, with the trunnion

installed, accomplish an ECI or FPI of the uniball lower bore lip, uniball upper bore, and each trunnion mount bolt hole for a crack by accomplishing the actions in paragraph (h)(3)(i) or (ii) of this AD, as applicable.

(i) Accomplish an ECI by following the Accomplishment Instructions, Section 3, paragraphs C.(2) through (6), but not paragraph C.(6)(c)1., of ASB 92-62-010.

(ii) Accomplish an FPI by following the Accomplishment Instructions, Section 3, paragraphs D.(2), (3), and (5) of ASB 92-62-010.

(4) If there is a crack as a result of any of the inspections required by paragraph (h)(2) or (3) of this AD, before further flight, remove the swashplate assembly from service.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Boston ACO, Compliance & Airworthiness Division, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (j) of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(j) Related Information

For more information about this AD, contact Jared Hyman, Aerospace Engineer, Boston ACO Branch, Compliance & Airworthiness Division, FAA, 1200 District Avenue, Burlington, Massachusetts 01803; telephone (781) 238-7799; email: 9-AVS-AIR-BACO-COS@faa.gov.

(k) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required

by this AD, unless the AD specifies otherwise.

(3) The following service information was approved for IBR on [DATE 35 DAYS AFTER PUBLICATION OF THE FINAL RULE].

(i) Sikorsky S-92 Helicopter Alert Service Bulletin ASB 92-62-010, Basic Issue, dated January 26, 2022.

(ii) [Reserved]

(4) The following service information was approved for IBR on February 18, 2022 (87 FR 2316, January 14, 2022).

(i) Sikorsky S-92 Helicopter Alert Service Bulletin ASB 92-62-009, Basic Issue, dated February 6, 2019.

(ii) [Reserved]

(5) For Sikorsky Aircraft Corporation service information identified in this AD, contact your local Sikorsky Field Representative or Sikorsky's Service Engineering Group at Sikorsky Aircraft Corporation, Mailstop K100, 124 Quarry Road, Trumbull, CT 06611; telephone 1-800-946-4337 (1-800-Winged-S); email wcs_cust_service_eng.gr-sik@lmco.com. Operators may also log on to the Sikorsky 360 website at sikorsky360.com.

(6) You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

(7) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email: fr.inspection@nara.gov, or go to: www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on January 10, 2023.

Christina Underwood, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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